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Handique et al.(10) **Pub. No.: US 2007/0184547 A1**(43) **Pub. Date: Aug. 9, 2007**(54) **POLYNUCLEOTIDE SAMPLE
PREPARATION DEVICE****Publication Classification**(51) **Int. Cl.****C12M 1/34** (2006.01)**C12P 19/34** (2006.01)(52) **U.S. Cl.** **435/288.5**; 435/91.2; 435/287.2;
435/303.1(76) Inventors: **Kalyan Handique**, Ypsilanti, MI (US);
Jeff Williams, Chelsea, MI (US);
Sundaresh N. Brahmasandra, Ann
Arbor, MI (US); **Nikhil Phadke**, Ann
Arbor, MI (US); **Betty Wu**, Canton, MI
(US)

Correspondence Address:

FISH & RICHARDSON P.C.**PO BOX 1022****MINNEAPOLIS, MN 55440-1022 (US)**

(57)

ABSTRACT

Methods and systems for preparing polynucleotide samples are disclosed. The invention includes a microfluidic system for converting a sample containing one or more polynucleotides into a form suitable for analyzing the polynucleotides, comprising: a cartridge receiving element, an insertable and removable cartridge, a heating element configured to heat one or more regions of the cartridge, and control circuitry, wherein the insertable cartridge comprises: a microfluidic component that is configured to accept the sample and one or more reagents, and to react the sample and the reagents, in order to produce a prepared sample suitable for analyzing the one or more polynucleotides. The invention further comprises a multi-sample cartridge for converting a number of samples, each containing one or more polynucleotides, into respective forms suitable for analyzing the polynucleotides, comprising: at least a first microfluidic component and a second microfluidic component.

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